Air Quality
TIER II OPERATING PERMIT
and
PERMIT TO CONSTRUCT

State of Idaho
Department of Environmental Quality

PERMIT No.: T2-060033

FACILITY ID No.: 001-00044

AQCR: 64 **CLASS:** A

SIC: 3674 **ZONE:** 11

UTM COORDINATE (km): 569.0 , 4,819.7

1. **PERMITTEE**
Micron Technology, Inc.

2. **PROJECT**
Tier II Operating Permit and Permit to Construct with Facility Emissions Cap

3. **MAILING ADDRESS**	**CITY**	**STATE**	**ZIP**
8000 S. Federal Way, P.O. Box 6	Boise	ID	83707-0006
4. **FACILITY CONTACT**	**TITLE**	**TELEPHONE**	
Beth Elroy	Environmental Manager	(208) 368-4000	
5. **RESPONSIBLE OFFICIAL**	**TITLE**	**TELEPHONE**	
Dale Eldridge	Director of Facilities	(208) 368-4000	
6. **EXACT PLANT LOCATION**		**COUNTY**	
Latitude 43° 31’ 45’’, Longitude 116° 08’ 47’’		Ada	

7. **GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS**
Semiconductor Manufacturing

8. **PERMIT AUTHORITY**

This permit to construct and Tier II operating permit is issued according to the Rules for the Control of Air Pollution in Idaho, IDAPA 58.01.01.175-181, IDAPA 58.01.01.200-228 and IDAPA 58.01.01.400-470, respectively. This permit pertains only to emissions of air contaminants, which are regulated by the state of Idaho and to the sources specifically allowed to be operated by this permit.

Only the terms and conditions pertaining to Tier II operating permit requirements are subject to the expiration date of this permit.

This permit has been granted on the basis of design information presented in the application and the Idaho Department of Environmental Quality’s (DEQ) technical analysis of the supplied information. Changes in design or equipment that result in any change in the nature or amount of emissions that do not meet the applicable requirements established in this permit or the requirements of IDAPA 58.01.01.181 may require DEQ review in accordance with IDAPA 58.01.01.200 of the Rules for the Control of Air Pollution in Idaho.

ZACH KLOTOVICH, PERMIT WRITER
DEPARTMENT OF ENVIRONMENTAL QUALITY

MIKE SIMON, STATIONARY SOURCE PROGRAM MANAGER
DEPARTMENT OF ENVIRONMENTAL QUALITY

DATE ISSUED:	PROPOSED
DATE MODIFIED/REVISED:	
DATE EXPIRES:	

TABLE OF CONTENTS

List of Acronyms, Units, and Chemical Nomenclature

acfm	actual cubic feet per minute
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
Btu	British thermal unit
CAA	Clean Air Act
CFR	Code of Federal Regulations
CI	compression ignition
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
EF	emission factor
FEC	facility emissions cap
gpm	gallons per minute
gr	grain (1 lb = 7,000 grains)
HAPs	hazardous air pollutants
HCl	hydrochloric acid
HF	hydrofluoric acid
hp	horsepower
ICE	internal combustion engine
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pound per hour
MMBtu	million British thermal units
MTI	Micron Technology, Inc.
NO_X	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
PTC	permit to construct
PTE	potential to emit
scf	standard cubic feet
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_x	sulfur oxides
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

1. PERMIT SCOPE

Purpose

1.1 The purpose of this Tier II operating permit and permit to construct is for the operation of Micron Technology, Inc.'s (MTI) semiconductor manufacturing facility and related operations located at 8000 South Federal Way, 7560 S. Federal Way, and 3851 E. Columbia Road in Boise, Idaho. This permit also allows the construction and operation of additional equipment at the Boise facility under a facility emissions cap.

1.2 In accordance with Condition 18 of the Third Amended Consent Order dated October 7, 2002, issuance of this Tier II operating permit terminates the consent order.

Regulated Sources

1.3 Table 1.1 identifies all sources of regulated emissions in this permit.

Table 1.1 SUMMARY OF REGULATED SOURCES[1]

Permit Section	Source Description	Emissions Control(s)
3	Facility Emissions Cap (The facility emissions cap applies to all regulated sources at the facility, including manufacturing operations, research and development, boilers, generators, and cooling towers)	Wet scrubbers VOC abatement units
4	Semiconductor Manufacturing, Including Research and Development, and Support Operations (Includes, but is not limited to, silicon wafer cleaning, diffusion, photolithography, etch, doping, metallization, probe, test, and assembly)	Wet scrubbers VOC abatement units
5	Pollutants Regulated by IDAPA 58.01.01.585-586	Wet scrubbers VOC abatement units
6	Boilers	Natural gas fuel only
7	Emergency Generators	None

[1] See a more detailed list in Statement of Basis, Appendix C

2. FACILITY-WIDE CONDITIONS

Reserved.

The facility-wide conditions are included in MTI's Tier I operating permit.

3. FACILITY EMISSIONS CAP CONDITIONS

3.1 Process Description

This permit authorizes changes to the facility which increase emissions of criteria pollutants and HAPs for those changes that comply with the terms and conditions of this permit and that meet the requirements of IDAPA 58.01.01.181. The procedures in IDAPA 58.01.01.220-222 are not applicable to changes in design or equipment at the facility that result in any change in the nature or amount of emissions provided that MTI complies with the conditions of Sections 3 and 5 of this permit and meets the requirements of IDAPA 58.01.01.181.

Table 3.1 FACILITY EMISSIONS DESCRIPTION

Emissions Unit(s) / Process(es)[1]	Emissions Control Device[1]
Manufacturing Processes	Wet scrubbers VOC abatement units
Boilers (natural gas-fired)	None
Emergency Generators	None
Cooling Tower Cells	None

[1] See list provided in Statement of Basis, Appendix C

Emission Limits

3.2 Criteria Pollutant and HAP Facility Emissions Cap

The PM_{10}, SO_2, NO_X, CO, VOC, Pb, and total HAP emissions from the Micron facility shall not exceed any corresponding facility emissions cap (FEC) limits listed in Table 3.2. Hazardous air pollutants are those listed in or pursuant to Section 112(b) of the Clean Air Act.

Table 3.2 FEC EMISSIONS LIMITS[1]

Source Description	PM_{10}	SO_2	NO_X	VOC	CO	Pb	Individual HAPs	Aggregate HAPs
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr
Total Facility Emissions Cap	59	7	126	176	104	0.06	<10	<25

[1] Ton per year limits based on a rolling 12-month period.

Monitoring and Recordkeeping Requirements

3.3 Criteria Pollutant Facility Emissions Cap Compliance

3.3.1 MTI shall calculate and record estimated total NO_x, CO, SO_2, VOC, PM_{10}, and Pb emissions for all combustion sources each calendar month, based on fuel consumption for natural gas combustion sources and based on hours of operation for emergency generators using the equations and emission factors identified in the permit application (provided in the Statement of Basis, Appendix D), or other DEQ approved method. Records shall be maintained on site for a period of at least five years and shall be made available to DEQ representatives upon request.

3.3.2 MTI shall maintain records of materials used in semiconductor manufacturing processes to estimate production-related emissions of PM_{10}, VOCs, and Pb for each calendar month. Estimates of actual emissions may take into account wet scrubber and VOC abatement unit control efficiency as provided by the wet scrubber or VOC abatement unit manufacturer or applicable engineering data.

3.3.3 MTI shall calculate and record estimated PM_{10} emissions for cooling towers using drift loss, total dissolved solids in the cooling water and water flow rate for each calendar month. As an alternative, MTI may calculate PM_{10} emissions using drift loss, total dissolved solids in the cooling water, flow rate capacities, and hours of operation for each calendar month. Where MTI uses water flow rate capacities, it shall do so consistent with the method described in MTI's permit application. Records shall be maintained on site for a period of at least five years and shall be made available to DEQ representatives upon request.

3.3.4 MTI shall calculate rolling 12-month total estimated emissions of NO_x, CO, SO_2, VOC, PM_{10}, and Pb for each calendar month. Emissions totals shall be available within 60 days of the end of a month. Production-related VOC, and Pb emissions shall be added to combustion emissions to determine compliance with the VOC, and Pb FECs established in Permit Condition 3.2. Production-related PM_{10} emissions shall be added to combustion emissions and cooling tower emissions to demonstrate compliance with the PM_{10} FECs established in Permit Condition 3.2. Records shall be maintained on site for a period of at least five years and shall be made available to DEQ representatives upon request.

3.4 HAP Facility Emissions Cap Compliance

3.4.1 MTI shall calculate and record total estimated individual and aggregate HAP emissions for all combustion sources for each calendar month, based on fuel consumption for natural gas combustion sources and based on hours of operation for emergency generators using the emission factors identified in the permit application or other DEQ approved alternative method. Records shall be maintained on site for a period of at least five years and shall be made available to DEQ representatives upon request.

3.4.2 MTI shall maintain records of HAP containing materials used in semiconductor manufacturing processes and estimate production-related emissions of individual and aggregate HAP emissions for each calendar month. Estimates of actual emissions may take into account wet scrubber and VOC abatement unit control efficiency as provided by the wet scrubber or VOC abatement unit manufacturer or applicable engineering data. Manufacturing process emission equations and emission factors used to calculate prior year emissions are provided in the Statement of Basis, Appendix D, for reference.

3.4.3 The HAP contents of each material shall be documented by a certified product data sheet, material safety data sheet, or actual test data.

3.4.4 MTI shall calculate rolling 12-month total estimated emissions of individual and aggregate HAPs for each calendar month. Emissions totals shall be available within 60 days of the end of a month. Production-related HAP emissions shall be added to combustion HAP emissions to determine compliance with the individual and aggregate HAP FECs established in Permit Condition 3.2. Records shall be maintained on site for a period of at least five years and shall be made available to DEQ representatives upon request.

Reporting Requirements

3.5 Reporting

3.5.1 Once per annum, MTI shall report to DEQ the rolling 12-month total criteria pollutant and HAP emissions recorded under Permit Conditions 3.3 and 3.4. The report shall be for the period July 1st through June 30th and shall be due on or before September 1st of each calendar year. All reports must be certified in accordance with IDAPA 58.01.01.123.

General FEC Conditions

3.6 Notice and Record-Keeping of Ambient Concentration Estimates

3.6.1 For facility changes that comply with the terms and conditions establishing the FEC, but are not included in the estimate of ambient concentration analysis approved for the permit establishing the FEC, MTI shall review the estimate of ambient concentration analysis. In the event the facility change would result in a significant contribution above the design concentration determined by the estimate of ambient concentration analysis approved for the permit establishing the FEC, but does not cause or significantly contribute to a violation to any ambient air quality standard, MTI shall provide notice to DEQ in accordance with IDAPA 58.01.01.181.01.b. MTI shall record and maintain documentation of the review on site.

3.6.2 In accordance with IDAPA 58.01.01.181.03, MTI shall use the most current EPA-approved regulatory guideline model to estimate ambient concentrations where required by section 3.6.1, except where DEQ approves MTI's use of an alternative model. The permittee is strongly encouraged to submit a modeling protocol to DEQ for review and approval prior to conducting a modeling analyses using a model that differs from that used in the permit application.

3.7 Renewal

3.7.1 In accordance with IDAPA 58.01.01.179.02, MTI shall submit a complete application for a renewal of the terms and conditions establishing the FEC at least six months before, but no earlier than 18 months before, the expiration date of this permit.

3.7.2 In accordance with IDAPA 58.01.01.177.02, MTI's renewal application for this permit shall include ambient concentration estimates as specified in IDAPA 58.01.01.202.02 or IDAPA 58.01.01.402.03.

3.8 List of Equipment

3.8.1 MTI shall develop and maintain a list of scrubbers, VOC abatement units, emergency generators, boilers, and cooling towers. The list shall include:

- Identification if equipment was included in permit application;
- Identification if in service at time of permit issuance;
- Equipment location;
- Installation date, if installed after permit issuance;
- Deinstallation date if removed after permit issuance; and
- Identification if equipment is subject to NSPS requirements (40 CFR 60).

The list of equipment at the MTI facility at the time of permit issuance is provided in the Statement of Basis, Appendix C.

4. SEMICONDUCTOR MANUFACTURING OPERATIONS

4.1 Process Description

MTI manufactures semiconductor devices (also called chips or die) on silicon wafers. Semiconductor manufacturing, research and development, and support operations performed at the facility may include, but are not limited to: photolithography, cleaning, diffusion, wet etch, dry etch, implant, metallization, test, probe, and assembly.

4.2 Emissions Control Description

Table 4.1 Semiconductor manufacturing and support operations

Emissions Unit(s) / Process(es)	Emissions Control Device	Emissions Point
Manufacturing Processes	Wet scrubbers VOC abatement units (see list in Statement of Basis, Appendix C)	Scrubber stacks, VOC abatement unit stacks General exhaust stacks

Emissions Limits

4.3 Opacity Limit

Emissions from any stack, vent, or functionally equivalent opening at the facility shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Operating Requirements

4.4 Wet Scrubber Operating Conditions

4.4.1 MTI shall properly operate and maintain wet scrubbers, thereby limiting the facility's potential to emit regulated air pollutants and substances regulated by IDAPA 58.01.01.585 and 586. Proper operation shall include rotation of wet scrubbers in and out of active service where the scrubber system design includes redundant scrubbers for this purpose.

4.4.2 The minimum liquid recirculation rate of the wet scrubbers shall be maintained. MTI shall install and operate instruments to monitor the scrubbing liquid recirculation rate.

4.4.3 The scrubber liquid pH shall be properly maintained. MTI shall install and operate instruments to monitor the pH of the scrubber liquid.

4.4.4 The scrubber pump operational status shall be properly maintained. Proper operational status is ensuring the scrubber liquid is circulating. MTI shall install and operate instruments to monitor the pump on/off status or instruments to measure the presence of liquid flow.

4.4.5 Within 90 days of permit issuance MTI shall develop a log that contains the minimum scrubbing liquid recirculation flow rate and pH range required to maintain proper performance for each wet scrubber based on manufacturer's data or applicable engineering data. If an existing scrubber is modified so that the

proper scrubber flow rate or pH is changed, or a new scrubber is installed, the log shall be updated to reflect the minimum recirculation flow rate and pH for the modified or new scrubber. The log shall be maintained on site and made available to DEQ representatives upon request.

4.4.6 MTI shall take corrective action as expeditiously as practicable whenever there is scrubber downtime or malfunction. When calculating emissions to determine compliance with Permit Conditions 3.3, 3.4, or 5.1, MTI shall use uncontrolled emission rates for pollutants normally emitted through the scrubbers for time periods when the scrubber exhaust is routed to the atmosphere without control or the unit is operating outside the parameters in Permit Condition 4.4.5. Downtime of a scrubber unit or operation outside the parameters established in this permit shall not in itself constitute a violation of this permit as long as the calculated uncontrolled emissions rates do not exceed any limit established by this permit. Scrubber downtime does not include time periods when a unit is in standby mode as a backup for operating scrubbers.

4.5 VOC Abatement Unit Operating Conditions

For the purposes of this permit, certain terms are defined as follows:

- "Coat track" means a semiconductor manufacturing tool that performs a process called coat bake in a photolithography area of the facility.
- "Coat bake" means a batch process where liquids potentially containing volatile organic compounds (VOCs) are applied to the surface of silicon wafers and then cured.
- "Facility" means the semiconductor manufacturing facility owned and operated by MTI in Boise, Idaho.
- "VOC abatement unit" means a system that gathers, concentrates, and oxidizes volatile organic compounds (VOCs).

4.5.1 MTI shall operate VOC abatement units to control emissions from coat tracks, thereby limiting the facility's potential to emit VOCs and substances regulated by IDAPA 58.01.01.585 and 586.

4.5.2 MTI shall connect all coat tracks installed at the facility to a VOC abatement unit.

4.5.3 MTI shall, at all times, properly operate and maintain the VOC abatement units. Proper operation and maintenance includes downtime for repairs and maintenance.

4.5.4 MTI shall operate the VOC abatement units according to manufacturers' recommendations as follows:

a) Oxidation temperature shall be 1,350 degrees F or greater.

b) Desorption temperature shall be 340 degrees F or greater.

c) Each unit shall not be operated outside of the manufacturer's design flow capacity. Design flow capacity for each unit shall be maintained on site and made available to DEQ representatives upon request.

4.5.5 When calculating emissions to determine compliance with Permit Condition 3.2 or 5.1, MTI shall use uncontrolled emission rates for pollutants normally emitted through the VOC abatement units for time periods when the VOC abatement unit is not operating or is operating outside the parameters listed in Permit Condition 4.5. Downtime of the VOC abatement unit or operation outside of the parameters

established in this permit shall not in itself constitute a violation of this permit as long as the calculated uncontrolled emissions rates do not exceed any limits established by this permit.

Monitoring and Recordkeeping Requirements

4.6 Wet Scrubbers

4.6.1 MTI shall record the date and time that any scrubber exhaust is routed to the atmosphere without control due to equipment breakdown, or routine maintenance. If uncontrolled emissions are determined to exceed any permit limit, the event shall be reported as excess emissions in accordance with IDAPA 58.01.01.131.

4.6.2 Scrubber monitoring:

- MTI shall monitor and record the scrubber water pH at least once every 15-minutes.
- MTI shall monitor and record the operational status (on/off status or presence of liquid flow) of the scrubbing water recirculation pumps at least once every 15-minutes.
- Once per calendar month MTI shall monitor and record the scrubbing water flow rate through each scrubber. These records shall note redundant scrubbers that are not operating during the monthly inspection.

4.6.3 Within 180 days of permit issuance, MTI shall conduct a performance test on two wet scrubber units to verify the removal efficiency of hydrofluoric acid and hydrochloric acid. A test protocol must be submitted to DEQ at least 30 days prior to the test. The protocol shall identify the wet scrubbers that will be tested. The scrubbers tested shall be two scrubbers controlling emissions from processes with relatively large HCl and HF loading. MTI shall use EPA test Method 26A or a DEQ approved alternative. HCl and HF audit samples must be analyzed, subject to availability, along with the test sample. The performance test shall be conducted under normal operating conditions at both the inlet and outlet of the scrubber to determine removal efficiency. If the removal efficiencies for HCl and HF are less than 95% and 98%, respectively, the removal efficiencies used in mass emissions calculations shall be adjusted to the average measured removal efficiency. If the HCl or HF outlet concentration is less than 0.42 ppmv, the respective 95% or 98% removal efficiency may be assumed due to the low concentration. The mass emissions rate from the scrubber outlet shall also be reported in units of pounds per hour. MTI shall monitor and record the scrubber operating parameters (pH and liquid circulation rate) during the test. The performance tests shall be conducted and the test report submitted in accordance with IDAPA 58.01.01.157.

4.6.4 Within 180 days of permit issuance, MTI shall conduct a performance test on a wet scrubber unit to measure PM_{10} emissions. The emission results shall be compared to the emission rates used in the modeling analysis, and if the measured emission rates are greater than the rates used in the modeling analysis, the modeling analysis shall be revised to include the higher emission rates. MTI shall use EPA Methods 5 and 202, or an alternative method with DEQ approval. The performance test shall be conducted under normal operating conditions and the mass emissions rate from the scrubber outlet shall be reported in units of pounds per hour. MTI shall monitor and record the scrubber operating parameters (pH and liquid circulation rate) during the test. The performance tests shall be conducted and the test report submitted in accordance with IDAPA 58.01.01.157.

4.7 VOC Abatement Units

4.7.1 MTI shall record the date and time that any VOC abatement unit exhaust is routed to the atmosphere without control due to equipment breakdown or routine maintenance. If uncontrolled emissions are determined to exceed any permit limit, the event shall be reported as excess emissions in accordance with IDAPA 58.01.01.131.

4.7.2 VOC abatement unit monitoring:

- MTI shall install and operate equipment that will allow MTI to continuously monitor the VOC abatement unit oxidation temperature (°F) and desorption temperature (°F).
- Once per day, MTI shall record the VOC abatement unit oxidation temperature (°F) and desorption temperature (°F).
- Once per month, MTI shall record the volumetric flow rate to each VOC abatement unit (acfm).

4.7.3 Within 180 days of issuance of the permit, MTI shall conduct a performance test on one VOC abatement unit to verify the total VOC destruction efficiency and determine the mass emissions rate of VOCs. A test protocol must be submitted to DEQ at least 30 days prior to the test. The protocol shall identify the VOC abatement unit that will be tested. The unit tested shall be controlling emissions from processes with relatively large VOC usage. MTI shall use EPA Method 18, EPA Method 25, EPA Method 25A, or a DEQ approved alternative. The performance test shall be conducted under normal operating conditions at both the inlet and outlet of the VOC abatement unit to determine removal efficiency. If the removal efficiency for measured VOCs is less than 98%, and the measured outlet concentration is greater than 20 ppmv, the removal efficiency used in mass emissions calculations shall be adjusted to the average measured removal efficiency. The mass emissions rate from the VOC abatement unit outlet shall be reported in units of pounds per hour as carbon. MTI shall monitor and record the VOC abatement unit operating parameters (oxidation temperature, desorption temperature, and volumetric air flow rate) during the test. The performance tests shall be conducted and the test report submitted in accordance with IDAPA 58.01.01.157.

5. POLLUTANTS REGULATED BY IDAPA 58.01.01.585-586

5.1 TAP Compliance

5.1.1 This permit authorizes MTI to install sources or make modifications to the facility which change emissions of pollutants listed in IDAPA 58.01.01.585 and 586. The procedures in IDAPA 58.01.01.223 are not applicable provided MTI complies with this permit condition. MTI shall monitor material usage to calculate monthly average hourly process emissions of substances listed at IDAPA 58.01.01.585 and 586. If the increase in hourly emissions (E_i, from equation 5.1) exceeds 80% of the AAC or AACC for each respective pollutant (E_{ia}, from equation 5.2 or 5.3), MTI shall conduct a refined modeling analysis for the pollutant to demonstrate compliance with the respective AAC or AACC.

a) E_i is calculated from the following equation;

$$E_i = \frac{E_m}{H_m} - M_u \qquad \text{(Equation 5.1)}$$

b) For substances listed in IDAPA 58.01.01.585;

$$E_{ia} = \frac{\left(AAC * 0.8 \times 1000 \, {\mu g}/{mg} \right)}{CQ_{24-hr}} \qquad \text{(Equation 5.2)}$$

c) For substances listed in IDAPA 58.01.01.586:

$$E_{ia} = \frac{\left(AACC * 0.8 \right)}{CQ_{annual}} \qquad \text{(Equation 5.3)}$$

Where;
AAC = Acceptable ambient concentration for non-carcinogens (mg/m^3)
AACC = Acceptable ambient concentration for carcinogens (ug/m^3)
E_{ia} = Increase in hourly emissions that triggers a refined modeling analysis (lb/hr)
E_i = Calculated increase in hourly emissions (lb/hr)
E_m = Calculated monthly emissions rate of each pollutant used (lb/month)
H_m = Hours in the month of the calculation (hours/month)
M_u = Baseline hourly emissions rate from Appendix A (lb/hr). If a baseline emissions rate for a specific pollutant does not exist in Appendix A, then $M_u = 0$
$CQ_{24\text{-}hr}$ = Chi/Q value for 24-hour averaging period = 13.06 $\mu g/m^3$ per lb/hr
CQ_{annual} = Chi/Q value for annual averaging period = 3.51 $\mu g/m^3$ per lb/hr

The most recent five years of calculated emission rates and calculations shall be maintained on site and made available to DEQ representatives upon request.

5.1.2 In the event MTI must conduct an applicability determination, MTI may take into account the controls required by this operating permit in calculating potential to emit.

6. BOILERS

6.1 Process Description

MTI currently operates natural gas-fired boilers for heat and humidification at the facility. Eleven of the existing boilers are NSPS Subpart Dc affected units. A list of the existing boilers at the time of permit issuance and their NSPS applicability is provided in the Statement of Basis, Appendix C.

Emission Limits

6.2 Boiler Emissions Limits

6.2.1 Total NOx emissions from fossil fuel-fired boilers operated at the facility shall not exceed 75 tons per year. Compliance shall be demonstrated in accordance with Permit Condition 6.4.

6.2.2 Total CO emissions from fossil fuel-fired boilers operated at the facility shall not exceed 75 tons per year. Compliance shall be determined in accordance with Permit Condition 6.4.

Operating Requirements

6.3 Boiler Fuel Specification

All boilers shall use only natural gas fuel.

Monitoring and Recordkeeping Requirements

6.4 Monitor Boiler Fuel Usage and Annual Emissions

MTI shall monitor and record the fuel usage for the boilers on a monthly basis using available data. MTI shall use the emission factors identified in the application, and as listed in the Statement of Basis, Appendix D, or other emission factors approved by DEQ to calculate emissions. MTI shall calculate the total boiler related NO_X and CO emissions to determine compliance with Permit Condition 6.2 for each calendar month. Emissions from the boilers shall be included in the rolling 12-month FEC compliance demonstration (Permit Conditions 3.3 and 3.4).

6.5 New Source Performance Standards for Boilers

6.5.1 MTI shall comply with the applicable requirements in 40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units.

6.5.2 For all NSPS affected natural gas fired boilers with a rated capacity greater than 10 MMBtu/hr and less than 30 MMBtu/hr, MTI shall comply with the applicable requirements in 40 CFR 60, Subpart Dc, as set forth below:

6.5.3 For each boiler subject to NSPS Subpart Dc, MTI shall record and maintain records of the amounts of fuel combusted per calendar month, in accordance with 40 CFR 60.48(c)(g)(2).

6.5.4 MTI shall submit the following information to EPA and DEQ for each NSPS-affected natural gas boiler installed after the date of issuance of this permit:

- The design heat input capacity of the boiler and identification of fuels to be combusted in the boiler.
- The actual date of initial startup of the boiler, postmarked within 15 days after such day.
- Notification of the date of construction in accordance with 40 CFR 60.48c.

6.5.5 MTI shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of each NSPS-affected natural gas boiler, unless an alternative monitoring plan is approved by EPA. In such case, MTI may follow the EPA approved monitoring plan.

7. EMERGENCY GENERATORS

7.1 Process Description

MTI maintains emergency generators and emergency fire-water pumps. MTI performs routine testing and maintenance on these units. A list of the existing emergency generators at the time of permit issuance is provided in the Statement of Basis, Appendix C.

Emission Limits

7.2 Generator Emission Limits

Emissions from the emergency generators shall be included in the rolling 12-month FEC compliance demonstration (Permit Condition 3.3 and 3.4). Emissions shall be calculated using the emissions factors identified in the Statement of Basis, Appendix D, or other emission factors approved by DEQ.

Operating Requirements

7.3 Generator Fuel Specification

All generators shall use No. 1 diesel fuel, No. 2 diesel fuel, or natural gas.

Monitoring and Recordkeeping Requirements

7.4 Monitor Generator Hours of Operations

Once per month, MTI shall monitor and record the number of hours of operation of each emergency generating set. The hours of operation shall be used to calculate rolling 12-month emissions.

As an alternative to recording the actual hours of operation each month, MTI may monitor and record the actual hours of operation only once per year and assume that each generator operates 200 hours per year. MTI must use 200 hours per year in the rolling 12-month emissions calculations unless the actual hours of operation are greater than 200 hours per year, in which case the actual hours of operation shall be used to update the emissions calculation.

NSPS Requirements

7.5 MTI shall comply with 40 CFR 60 Subpart IIII-Standards of Performance for Stationary Compression Ignition Internal Combustion Engines, as applicable. The standards apply to stationary compression ignition internal combustion engines (CI ICE) that were:

(i) Manufactured after April 1, 2006 and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Modified or reconstructed stationary CI ICE after July 11, 2005.

8. PERMIT TO CONSTRUCT AND TIER II PERMIT TO OPERATE GENERAL PROVISIONS

General Compliance

1. The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the Rules for the Control of Air Pollution in Idaho. The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit, the Rules for the Control of Air Pollution in Idaho, and the Environmental Protection and Health Act.

[Idaho Code §39-101, et seq.]

2. The permittee shall at all times (except as provided in the Rules for the Control of Air Pollution in Idaho) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

[IDAPA 58.01.01.211, 405, 5/1/94]

3. Nothing in this permit is intended to relieve or exempt the permittee from the responsibility to comply with all applicable local, state, or federal statutes, rules and regulations.

[IDAPA 58.01.01.212.01, 406, 5/1/94]

Inspection and Entry

4. Upon presentation of credentials, the permittee shall allow DEQ or an authorized representative of DEQ to do the following:

   a. Enter upon the permittee's premises where a Tier I source is located or emissions related activity is conducted, or where records are kept under conditions of this permit;

   b. Have access to and copy, at reasonable times, any records that are kept under the conditions of this permit;

   c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and

   d. As authorized by the Idaho Environmental Protection and Health Act, sample or monitor, at reasonable times, substances or parameters for the purpose of determining or ensuring compliance with this permit or applicable requirements.

[Idaho Code §39-108]

Construction and Operation Notification

5. DEQ shall deem the notification provisions of IDAPA 58.01.01.211 satisfied with respect to operations and equipment at the facility in place as of the date of permit issuance, and any future operations and/or new equipment installations or modifications that do not exceed the terms of this permit. Where required, the permittee shall furnish DEQ written notifications as follows in accordance with IDAPA 58.01.01.211:

   a. A notification of the anticipated date of initial start-up of the stationary source or facility not more than sixty days or less than thirty days prior to such date; and

   b. A notification of the actual date of initial start-up of the stationary source or facility within fifteen days after such date.

[IDAPA 58.01.01.211, 5/1/94]

Performance Testing

6. If performance testing (air emissions source test) is required by this permit, the permittee shall provide notice of intent to test to DEQ at least 15 days prior to the scheduled test date or shorter time period as approved by DEQ. DEQ may, at its option, have an observer present at any emissions tests conducted on a source. DEQ requests that such testing not be performed on weekends or state holidays.

   All performance testing shall be conducted in accordance with the procedures in IDAPA 58.01.01.157. Without prior DEQ approval, any alternative testing is conducted solely at the permittee's risk. If the permittee fails to obtain prior written approval by DEQ for any testing deviations, DEQ may determine that the testing does not satisfy the testing requirements. Therefore, at least 30 days prior to conducting any performance test, the permittee is encouraged to submit a performance test protocol to DEQ for approval. The written protocol shall include a description of the test method(s) to be used, an explanation of any or unusual circumstances regarding the proposed test, and the proposed test schedule for conducting and reporting the test.

   Within 30 days following the date in which a performance test required by this permit is concluded, the permittee shall submit to DEQ a performance test report. The written report shall include a description of the process, identification of the test method(s) used, equipment used, all process operating data collected during the test period, and test results, as well as raw test data and associated documentation, including any approved test protocol.

[IDAPA 58.01.01.157, 4/5/00]

Monitoring and Recordkeeping

7. The permittee shall maintain sufficient records to ensure compliance with all of the terms and conditions of this permit. Records of monitoring information shall include, but not be limited to the following: (a) the date, place, and times of sampling or measurements; (b) the date analyses were performed; (c) the company or entity that performed the analyses; (d) the analytical techniques or methods used; (e) the results of such analyses; and (f) the operating conditions existing at the time of sampling or measurement. All monitoring records and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes, but is not limited to, all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation and copies of all reports required by this permit. All records required to be maintained by this permit shall be made available in either hard copy or electronic format to DEQ representatives upon request.

[IDAPA 58.01.01.211, 405, 5/1/94]

Excess Emissions

8. The permittee shall comply with the procedures and requirements of IDAPA 58.01.01.130-136 for excess emissions due to startup, shutdown, scheduled maintenance, safety measures, upsets and breakdowns.

[IDAPA 58.01.01.130-136, 4/5/00]

Certification

9. All documents submitted to DEQ, including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

[IDAPA 58.01.01.123, 5/1/94]

False Statements

10. No person shall knowingly make any false statement, representation, or certification in any form, notice, or report required under this permit, or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.125, 3/23/98]

Tampering

11. No person shall knowingly render inaccurate any monitoring device or method required under this permit or any applicable rule or order in force pursuant thereto.

[IDAPA 58.01.01.126, 3/23/98]

Expiration and Renewal

12. This permit shall be renewable on the expiration date, provided the permittee submits an application for renewal to the Department and continues to meet all terms and conditions contained in the permit. The expiration of this permit will not affect the operation of the stationary source or facility during the administrative procedure period associated with the permit renewal process.

[IDAPA 58.01.01.209.04, 7/1/02]

Transferability

13. This permit is transferable in accordance with procedures listed in IDAPA 58.01.01.209.06 and 404.05.

[IDAPA 58.01.01.209.06, 404.05, 4/11/06]

Severability

14. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

9. APPENDIX A – BASELINE EMISSIONS RATES

CAS#	Material	Current Consumption (lb/yr)	Potential Increase (lb/yr)	M_u Baseline Emissions Rate (lb/hr)[1]
14808-60-7	Silica - Quartz	3377.5	2688.3	0.39
60676-86-0	Silica Amorphous (Fused)	2143.6	1706.1	0.24

1 Baseline emissions rate is determined by dividing current consumption (lb/yr) by 8760 hrs/yr.